

Characteristics and Shelf-Life of Corn Milk Yogurt

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ABSTRACT

*The chemical, physical and microbial characteristics, and shelf-lives of corn milk and cow milk yogurts were compared. Fat content of the corn milk yogurt was lower but protein content, hardness, consistency and counts of *Streptococcus thermophilus* and *Lactobacillus delbrueckii subsp. bulgaricus* were higher than those of the cow milk yogurt. In the sensory evaluation study, the appearance, color and flavor of both yogurts were not significantly different ($P>0.05$) at the end of 14 days of storage at 5°C. Fatty acid esters were not found in the cow milk yogurt while they were present as the main flavor compounds in corn milk yogurt. Shelf-lives of corn milk and cow milk yogurts were 14 days at 5°C. Results obtained suggest that corn milk is a potential raw material for making a novel yogurt.*

Key words: Corn milk yogurt, Yogurt, Characteristics, Shelf-life

INTRODUCTION

Thailand exported canned and frozen sweet corn products for an amount of more than 650 million Baht in 2002 (Ketil, 2002). Sweet corn also has been processed locally to produce corn milk, either pasteurized or heat-treated in the range of UHT treatment. The attractive color, aroma and appearance, together with the sweetness of the corn milk, are the main sensory characteristics that are sought by its consumers. The corn milk also has a good vitamin composition (USDA, 2004).

The industrial production of yogurt has increasingly developed worldwide (Birolo et al., 2000; Park et al., 2005) due to the nutritional benefit of milk constituents and live lactic acid bacteria (LAB) (Afonso and Maia, 1999; Birolo et al., 2000; Park et al., 2005). However, consumption of cows' milk is avoided by vegetarian people and people who are allergic to cows' milk. Thus, there have been many attempts to make yogurt from a variety of food resources (Granata and Morr, 1996; Öztürk and Öner, 1999; Kumar and Mishra, 2004; Lal et al., 2006). Production of yogurt from corn milk was aimed to combine the good sensory